said N types of optical discs loaded in said apparatus said apparatus comprising:

a composite converging optical device comprising:

(i) a light emitting means for emitting said light flux;

(ii) a converging means for converging said light flux on said second layer of said one of said N optical discs loaded in said apparatus; and

(iii) an optical wave front transforming means disposed in an optical path connecting said light emitting means and said converging means for correcting an optical wave front of the light flux,

D1 Cont

wherein said composite converging optical device (a) performs aberration correction in correspondence with said first layer of said loaded one of said N optical discs, and (b) converges said light flux as a smaller spot diameter D with respect to one of said optical discs having a thinner one of said substrates onto said second layer of said loaded optical disc,

wherein said composite converging optical device differently corrects the optical wave front of the light flux in correspondence with said different thickness of said N optical discs to provide said aberration correction and said converging of said light flux, and

D1 Cont

wherein a thickness of each of said first layers of said N types of optical discs is about 1.2mm or less.

28. An optical recording/reproducing system comprising:

(a) an optical recording/reproducing apparatus for recording, reproducing or erasing an information signal onto/from any selected one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of said optical discs having at least said light layer being transparent and a

D2 second layer for storing information, by converging a light flux on said second layer through said first layer of one of said N types of optical discs loaded in said apparatus, said apparatus comprising:

a composite converging optical device, which comprises:

(i) a light emitting means for emitting said light flux;

(ii) a converging means for converging said light flux on said second layer of said loaded one of said N optical discs; and

(iii) an optical wave front transforming means disposed in an optical path connecting said light emitting means and said converging means for correcting an optical wave front of the light flux;

a photo detecting means for detecting reflective light from said one of said N optical discs,

wherein said composite conversing optical device (a) performs aberration correction in correspondence with said first layer of said loaded one of said N optical discs and (b) converges said light flux as a spot with a smaller diameter D with respect to one of said optical discs having a thinner one of said substrates onto said second layer of said loaded optical disc,

wherein said composite converging optical device differently corrects the optical wave front of the light flux in correspondence with said different thickness of said N optical discs to provide said aberration correction and said converging of said light flux, and

D2 cont

wherein a thickness of each of said transparent substrates of said N types of optical discs is about 1.2mm or less;

(b) a signal processing means, responsive to one of (i) a reproduction signal, corresponding to said information signal, from said photo detecting means and (ii) receipt of recording data, corresponding to said information signal, for recording on said disk, for generating an output signal corresponding to said information signal for performing one of a reproducing operation and a recording operation on said disks; and

(c) a system controlling means coupled to said signal processing means for controlling generation of the output signal of said signal processing means.

34. A system comprising:

(a) an optical recording/reproducing apparatus for recording, reproducing or erasing an information signal onto/from any selected one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of said optical discs having at least said light layer being transparent and a second layer for storing information, by converging a light flux on said second layer through said first layer of one of said N types of optical discs loaded in said apparatus, said apparatus comprising:

D3

a composite converging optical device, which comprises:

(i) a light emitting means for emitting said light flux;

(ii) a converging means for converging said light flux on said second layer of said loaded one of said N optical discs; and

(iii) an optical wave front transforming means disposed in an optical path connecting said light emitting means and said converging means for correcting an optical wave front of the light flux;

a photo detecting means for detecting reflective light from said one of said N optical discs,

wherein said composite conversing optical device (a) performs aberration correction in correspondence with said first layer of said loaded one of said N optical discs and (b) converges said light flux as a spot with a smaller diameter D with respect to one of said optical discs having a thinner one of said substrates onto said second layer of said loaded optical disc,

wherein said composite converging optical device differently corrects the optical wave front of the light flux in correspondence with said different thickness of said N optical discs to provide said aberration correction and said converging of said light flux, and

D3 Cont

wherein a thickness of each of said transparent substrates of said N types of optical discs is about 1.2mm or less;

(b) a signal processing apparatus including:

signal processing means, responsive to one of (i) a reproduction signal, corresponding to said information signal, from said photo detecting means and (ii) receipt of recording data, corresponding to said information signal, for recording on said disk, for generating an output signal corresponding to said information signal for performing one of a reproducing operation and a recording operation on said disks; and

system controlling means coupled to said signal processing means for controlling generation of the output signal of said signal processing means.

D3 Cont